Testimony of
Michael T. Osterholm, PhD, MPH
Director, Center for Infectious Disease Research and Policy
Professor, School of Public Health
University of Minnesota
Minneapolis, Minnesota

Testimony Before the
Subcommittee on Public Health
Health, Education, Labor, & Pensions Committee
United States Senate
Hearing on
Bioterrorism
October 9, 2001

Mr. Chairman and members of the subcommittee, my name is Michael T. Osterholm, PhD, MPH. I am the Director for the Center for Infectious Disease Research and Policy at the University of Minnesota. I am also a Professor, School of Public Health at the University.

For 24 years, I served at the Minnesota Department of Health, including 14 years as the State Epidemiologist. It was in that capacity that I testified before this Committee in the past. I am here today to address the critical need for our country to prepare its homeland security against a potential bioterrorist attack. At the same time we can and must capitalize on that preparation to respond to the everyday growing threat of emerging infections that are not related to potential bioterrorism.

My comments will reflect my combined experience in the trenches as an infectious disease epidemiologist in one of the premier outbreak investigation groups in the country, as a leader in several national infectious disease and microbiology professional organizations, my time as a personal advisor to His Majesty King Hussein of Jordan on bioterrorism and as an author of the recently published book, "Living Terrors: What American Needs to Know to Survive the Coming Bioterrorist Catastrophe.

First, let me remind all of us here that the substance of what we are talking about today, the need to adequately fund the "Public Health Improvement Act" authored by you, Mr. Chairman and Senator Frist, is no different now than it was last year. The importance of this issue was compelling before the passage of that important legislation; as microbial threats to our public health have continued to increase for the past decade. Last year I urged the Congress to pass and fund this legislation in an invited editorial in the *New England Journal of Medicine*.

Today, we are here because of the tragedy of September 11th and the wake-up call to America that catastrophic terrorism is now a reality within the borders of our own homeland. The consequences of an infectious disease outbreak due to a bioterrorist attack dramatically illustrate the critical importance of shoring up our public health system; without a comprehensive and timely response we will realize both an increase in deaths and the potential for previously unseen panic and fear. Preparing us for such an event, will also prepare us for the daily barrage of exotic agents from abroad, antibiotic resistant microbes and the ever-growing problem with food safety. This represents the very essence of dual purpose resources.

We have heard much over the past three weeks about the potential risk of a bioterrorism event occurring in this country. I will not address that issue any further other than to say that as a nation we cannot afford to be under-prepared to respond to such an event as we are today.

Recently, our Center at the University of Minnesota convened a Workgroup on Bioterrorism Preparedness that reflects the expertise and experience of a number of important front line organizations whose members will be responsible for responding to a bioterrorist attack. They include the American Society for Microbiology, the Alfred P. Sloan Foundation, the Association of Public Health Laboratories, The Association of State and Territorial Health Officials, the Council of State and Territorial Epidemiologists, Emory University School of Public Health, the Infectious Disease Society of America, the Johns Hopkins Center for Civilian Biodefense Studies, the National Association of County and City Health Officials, the National Association of Public Health Veterinarians and NTI. This group has provided a framework for public health action and bioterrorist preparedness. Out of this meeting grew a set of recommendations for critical funding for these public health activities. The members did not seek endorsement from their respective organizations for the recommendations contained in our report and therefore it may not reflect the position of the respective organizations. However, we believe at this time that it represents our best estimate of the necessary resources it will take to revitalize the public health system so it will pass the test of a catastrophic bioterrorist attack. Enclosed is a summary of that framework.

The designated amounts, as you will see noted, are needed for hospitals and federal, state, and local public health agencies to effectively recognize and respond to bioterrorism. At the state and

local levels it is essential for these activities to be housed within existing communicable disease programs—that is where the foundations for controlling communicable diseases exist. By enhancing existing systems, we can maximize the efficiency of putting new resources to their best use. I would also like to point out that the funds outlined are needed as an initial investment in building the surveillance systems, training programs, communication systems, and laboratory networks that are required for recognizing a bioterrorism event. Ongoing funding is critical to keep these systems operational at the level needed for effective homeland security over time. Let me provide you with a quick overview of the funding requirements with some discussion of what we are requesting.

First, we are requesting $35 million for state and local agencies to develop and test bioterrorism response plans. This amounts to about $500,000 per jurisdiction, assuming about 70 jurisdictions. A wide scale bioterrorism attack would create mass panic and overwhelm most existing state and local systems within a few days. We know this from simulation exercises such as TOPOFF and Dark Winter. Therefore, state and local plans for recognizing and responding to a bioterrorism attack are urgently needed. We believe that these plans should be completed in the next 90 to 120 days. In its last funding cycle, the Centers for Disease Control and Prevention (CDC) funded 11 states to develop bioterrorism plans. Other state applications for funding were approved through this grant program, but were not funded. Those applications should be funded immediately so that planning, which will be critical to any effective response, can be undertaken.

Second, under the category of Improving State and Local Preparedness: Staffing, Training, Epidemiology and Surveillance, we have requested $400 million. These funds amount to about $1.33 million per million population. Activities under this category are broad and include the following. 1) Develop sensitive surveillance systems that can rapidly detect illnesses caused by bioterrorism. Part of developing these systems involves educating the physicians and other healthcare providers about illnesses that may be caused by bioterrorism. 2) Assure that sufficient staff are available to collect epidemiologic data from suspected cases and to make the necessary connections as to "where, when, who and how." 3) Assure that adequate statistical and epidemiologic support is available to manage and analyze data from surveillance systems and from suspect cases if a bioterrorism event occurs. 4) Assure that adequate personnel are available to direct the public health aspects of a response to a bioterrorism attack (such as setting up triage systems and delivery systems for prophylactic medications and vaccines). 5) Assure that adequate personnel are available for containment and addressing issues of infection control. 6) Provide rapid and updated information to other public health officials, the medical community, and the public as the situation unfolds.

Third, we are requesting $200 million to upgrade rapid health alert networks and national communication systems. Sharing accurate information with those that need to know is essential during times of crisis. We also believe that it is essential to have a national electronic reporting system so that data can be collected efficiently and rapidly analyzed. This kind of system will be needed to monitor a national epidemic that could occur following release of a bioterorrism agent even in only one location. Agents such as smallpox or plague could set off widespread chains of illness that would require effective, accurate, and rapid communication about patterns of spread and needed control measures.

Fourth, we are asking for $200 million to upgrade laboratory capacity. Two systems need to be enhanced and broadly implemented. One is the Laboratory Response Network. This system puts into place a multi-level network that can receive and analyze laboratory specimens from a range of sources. The system is designed to assure definitive identification of suspected bioterrorism agents as quickly as possible. The second system is the National Laboratory System. This is a communication system designed to rapidly share laboratory information between public health, hospital, and commercial laboratories. Such communication will contribute to early detection and effective monitoring of bioterrorism events. Additional laboratory resources for chemical terrorism preparedness also are needed and should be integrated into the laboratory improvements. Finally, resources for improved diagnostic testing and identification of potential bioterrorism

agents by animal and wildlife laboratories also are needed, as is improved communication between human, animal, and wildlife laboratories.

Foodborne agents could be involved in a bioterrorism attack; therefore, we are requesting that $100 million be allocated to improve food safety in this country. Funds are needed to improve surveillance for foodborne diseases at the state and local level, to improve outbreak response capabilities, to enhance rapid communication of information about foodborne disease outbreaks, and to provide federal oversight for food safety activities.

Additional funds also are needed to upgrade other federal programs for bioterorrism. These include the following. 1) Enhancements at the CDC to conduct deterrence, preparedness, detection, confirmation, response, and mitigation activities ($153 million). 2) Development of federal expert response teams ($45 million). These teams would include experts who have extensive experience in management of outbreaks or have clinical experience with diseases caused by potential bioterrorism agents. The teams should be maintained on alert status and federalized as needed for deployment. 3) Improvements in the national pharmaceutical stockpile ($250 million). Ideally, we should have enough medication stockpiled to provide treatment or prophylaxis to up to 40 million persons. Therefore, we should continue to build the stockpile and to rotate medications as needed. 4) Accelerated development of smallpox vaccine ($60 million) and research on the development and production of other vaccines for the civilian population ($100 million). 5) Improvements in international surveillance by the CDC or the Department of Defense ($20 million).

Finally, we need to assess what works and what doesn't work through implementation of applied research initiatives. These should be conducted predominantly at the state or local level. We are requesting $50 million to fund several research initiatives throughout the country.

In conclusion, we as a nation, must depend on our government to provide us with the necessary resources to effectively and convincingly respond to a bioterrorist attack. Front and center to that response will be an effective and comprehensive public health, clinical laboratory and medical services systems. Today we are here to address, in part those systems. If we fail, I fear history will judge us negligent for having wasted the opportunity to prepare ourselves for the new world. We must never allow ourselves the possibility of experiencing a bioterrorist event which makes the pain and suffering of September 11th less significant.